U2 tN2 – USER MANUAL

INKNOVATION

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SPECIFICATION

DESCRIPTION

Printer	
Display	3.5” LCD with LED backlight
User Interface	Simple and easy-to-use operating system
Input Device	Pocket-sized IR remote keypad Compact 7” tablet PC with multi-touch (optional)
Available Language	Chinese (Traditional and Simplify), English, German, Spanish, Portuguese, Russian, Japanese, Korean, French, Italian and Turkish.
LED Indicators	Alarm, Ink low, Print, Run, Remote on/off
Electrical Requirements	AC 100V~240V, 50/60Hz
Dimensions	119x78.8x76 mm^3
Weight	550g
Mounting Orientation	Horizontal or downside
Operating Temperature	5℃-50℃ (41℉-122℉)
Data Interface	RS485, USB port, WIFI

Printing Engine	
Cartridge	Powered by Lexmark, 36ml Solvent compatible, designed for non-porous surfaces.
Print Distance	6mm recommended print distance.
Print Capability	Alphanumeric, logo, date/time, shift, counter, barcode.
Print Height	Limited to 12.7mm (0.5”). Selectable font size from 2.7mm, 3.6mm, 5.5mm, 8mm, 10mm, 12.7mm.

Special Features
Complete stand-alone, no PC required
Hot-swap: Circuit safeguard for quick cartridge change-over
Group network management
Setup wizard
Cartridge shutter

INSTALLATION

1. Make sure all screws are tightened and use anti-shock mechanism is necessary. Otherwise, any external damages such as box shocking isn't covered by warranty.
2. Please load and unload cartridge in 15 degree angle.
3. The installation of an UPS is highly recommended because it helps to avoid the damage that may be caused by power loss.
4. Power grounded is highly recommended. Furthermore, please avoid to share power supply with any high power equipment.
5. If the working environment is dusty, it is highly recommended clean the nozzle regularly using a low pressure compressed air supply that is dry and clean.

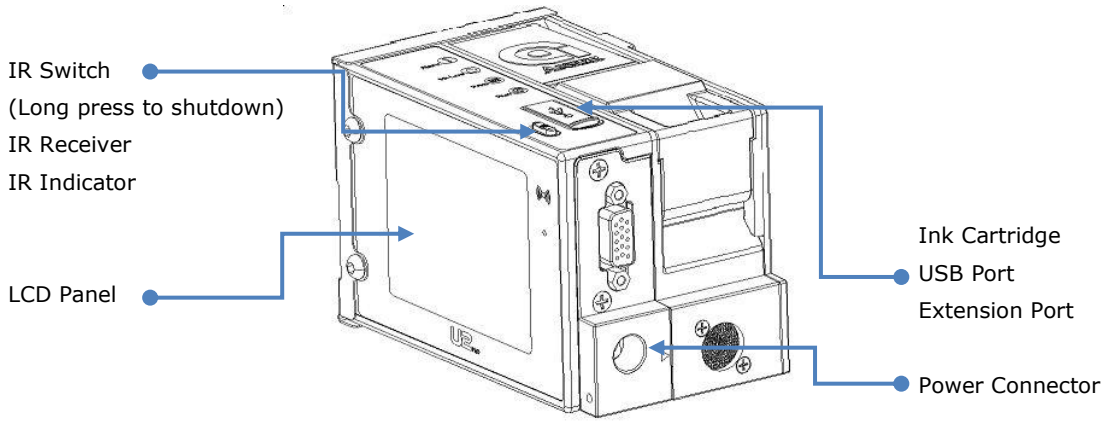
OPERATION

1. The remote controller will turned off automatically after three minutes if it is not being operated.
2. Please keep the printing distance to a target object within 6mm to ensure the best printing quality.
3. When the print head appears to have ink excessive, please apply the wet wipe to clean the nozzle surface.
4. If the printing position is incorrect, please press the key [**Tab|→|** on the remote keypad to adjust message print-delay to the best printing position.
5. In a dusty operation environment, please clear the dust using clean low pressure compressed air daily.
6. Please contact your local distributor if the printer mal-functions and the problems cannot be solved by yourself.

INTRODUCTION

This section describes: printer device, remote keypad and menu tree.

DEVICE OVERVIEW



IR-REMOTE KEYPAD

Below is key function description.

Printing key

Print On:	Start to print
Print Off:	Stop printing

Control Key

Function:	Setting page
Tools:	Dashboard
Tab|→:	Message delay
ESC:	Last page
Enter:	Confirm
▲▼◄►:	Direction

Input

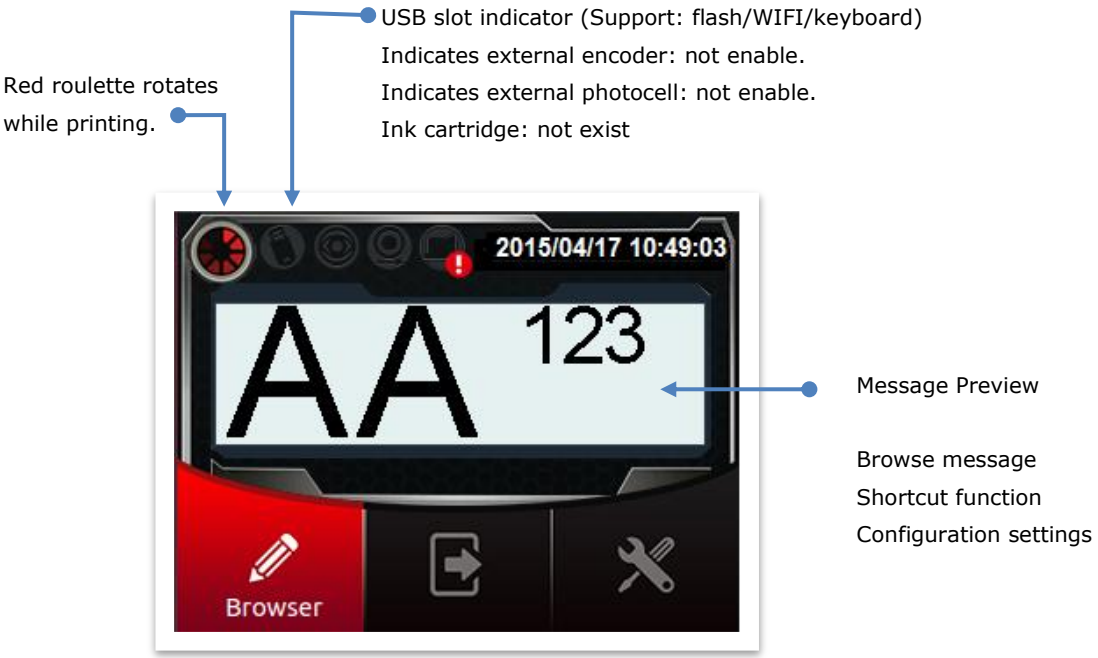
0 ~ 9:	Alphanumeric
· Symbols:	Symbols
←BS:	Backspace
X Delete:	Delete
ABC.Select:	Case select
␣ Space:	Space

Shortcut

F2:	Set system time
F3:	Modify object [expire date]
F4:	Modify object [counter]
F5:	Modify shift table
F6:	Preview Logo
F8:	Modify string table
◄:	Move left (zoom out)
► :	Move right (zoom in)
◄◄:	Fast move left.
►►:	Fast move right.

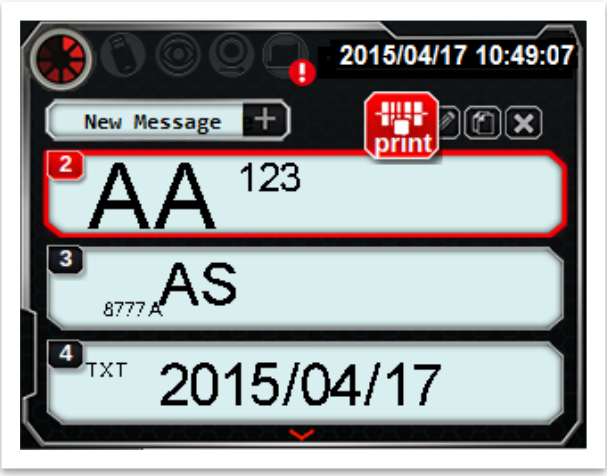
HOME PAGE

In home page, select [Browser] by [◄][►] as below, then press [Enter].



PRINTING GUIDE

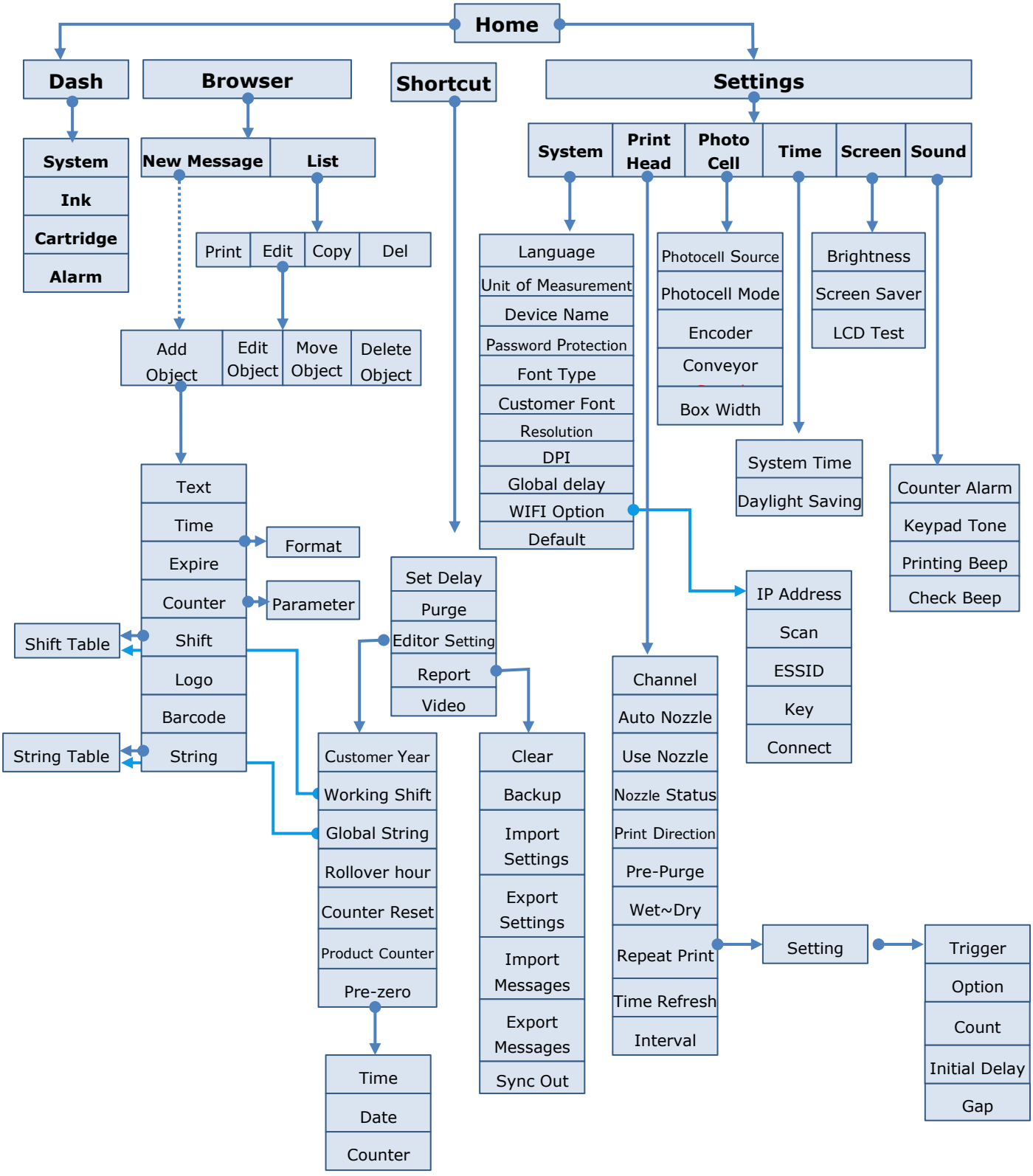
Printer: Fixed on the bracket or placed on the platform properly.
Photocell: For first use, please set the source (internal or external) and signal edge.
Nozzle: Adjust the nozzle direction and global delay.
Encoder/Conveyor: Set up encoder (300DPI or 400DPI) or conveyor speed.
Operation: As shown above, select [Editor] to get into preview page, select the message you want to print by key [▲][▼]. Finally, press [print].



Please place the printing target (paper) on the sliding table (or conveyor).
Once the photocell triggered, you will see the message printed on target.

MENU TREE

Below is the printer's menu tree.



SETTING

SYSTEM

LANGUAGE:

Supported 12 languages which include: Chinese, simplified Chinese, Japanese, Korean, English, German, Portuguese, Spanish, Russian, French, Italian and Turkish.

UNIT OF MEASUREMENT:

Switch unit of measurement to metric (mm) or imperial (inch).

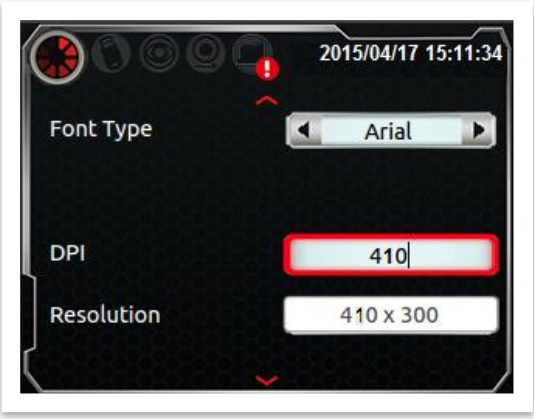
PASSWORD PROTECTION:

Once this function enabled, every time will ask for password to get into system.
System could setup 5 groups of user password at most.
Notes: Admin password: 1234

FONT TYPE AND RESOLUTION (DPI)

	Font type	Resolution	
		Single Channel	Dual channel
Basic	Arial	DPI*300	**DPI*600**
	Gothic		
Customize	*Customize*		

User could select basic or customize font type.
Notes: Encoder range is between 50~600 DPI.



About customize fonts, we can customize the new font according customer request, it needs the PC software (Message Pro) and USB to import. Switch [Font Type] to [Customer], you will find the customized font list in [Customer Font].

GLOBAL DELAY

Set up the value of global delay. This value will function for every message.

WIFI OPTION

[Setting]→[System]→WIFI[Setup]

This page will scan hot spot automatically. Then select [ESSID] in hot spot list and input [Key] for authentication. Finally, press [Connect].

DEFAULT

Following is the factory default value.

Language	English	Photocell Source	Internal
Measurement	Metric	Global Delay	0 mm
Password	Off	Encoder and Conveyor	Encoder: Off
Print Mode	Arial		Conveyor speed: 76m/min
Dots/inch	300		
Resolution	300*300	Daylight Saving	Off
		Screen Brightness	Maximum
Channel	Dual channel	Screen Saver	Off
Auto nozzle	Off	Key tone	On
Nozzle Switch	Off	Printing Beep	off
Printing direction	ABC→		
Repeat Print	Off		
Time Refresh	Off		

PRINT HEAD

CHANNEL

U2Pro supports dual channel printing.

AUTO NOZZLE

In single channel mode, you can turn on auto nozzle switch, it will make ink usage optimal. Otherwise, you could select left or right channel manually.

USE NOZZLE

Once one enable single channel print, you can select which channel to print, left or right.

NOZZLE STATUS

Check and report nozzle status.

PRINT DIRECTION

ABC→: Print from left to right, ←ABC: Print from right to left.

PRE-PURGE

Enable Pre-purge function, the Printer will output ink dots periodically, preventing the ink solidified on the nozzle in a dry environment or long printing gap time.

WET~DRY

Once you enable the Pre-purge function, you can set the "Wet~dry" lever according your printing environment.

REPEAT PRINT

Following table describes how to setup initial delay and gap value for repeat print.

Setting\Condition	Repeat several times after triggered	Repeat print continuously after triggered	Repeat print continuously
Trigger	On	Off	Off (trigger free)
Finite mode	Finite	Infinite	Infinite
Repeat time	Set value	0	0

TIME REFRESH

[Setting]→[Print head]→[Duration], range is 1~9 minutes.
If you have more precise requirements for printing contents of object in seconds, please set this value to 1.

PHOTOCELL

PHOTOCELL SOURCE

Set up the photocell source, internal or external.

PHOTOCELL MODE

According photocell specification, set proper trigger mode.

ENCODER AND CONVEYOR SPEED

The printing speed of printer should be the same with movement speed of target. Otherwise, the output message will be stretched or shortened.
Solution:
Use encoder: [System]→[Encoder: On]→[DPI Setting]
Input Conveyor speed: [System]→[Encoder: Off]→[Conveyor Speed]
Notes: When the [Encoder] is "on", the [Conveyor Speed] will be unavailable.

BOX WIDTH

Input the box width which you use to test the conveyor speed.
The printer will detect the time of the box pass by, then it will calculate the speed automatically.
Conveyor speed = box length/time

TIME

SYSTEM TIME

Set the system clock. (YYYY/MM/DD hh:mm:ss)

DAYLIGHT SAVING

Set up daylight saving mode.

SPEC\Time	Start	End
European	The last Sunday in March, time shift at 01:59:59→03:00:00.	The last Sunday in October, time shift at 01:59:59→01:00:00.
American	The 2nd Sunday in March, time shift at 01:59:59→03:00:00.	The 1st Sunday in November, time shift at 01:59:59→01:00:00.

SCREEN

BRIGHTNESS

Set screen brightness, rang is 10%~100%.

SCREEN SAVING

Screen saving time, range is 1~60min.

LCD TEST

After start testing, LCD will display red, green, blue and white for 1 sec sequentially.

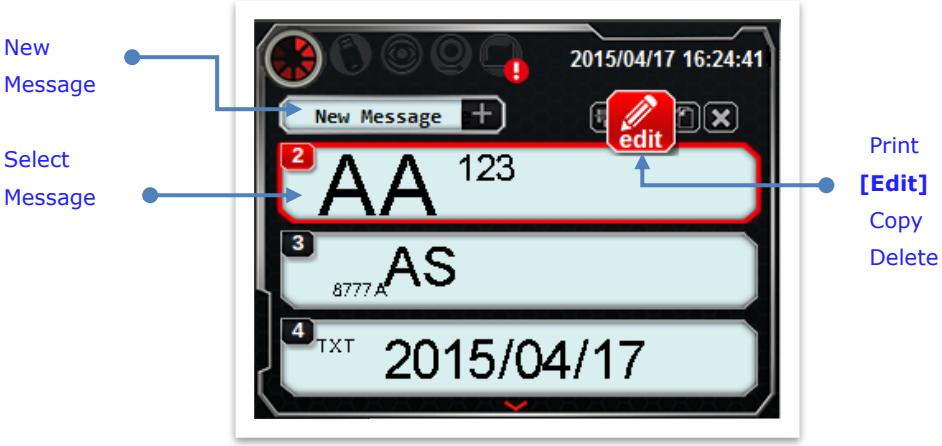
SOUND

Turn on/off the alarm for counter, remote keypad and printing beep.
Click “Run”, it will check the beep whether can work normally.

BROWSER

This page includes 2 functions: [Create new message] and [Message list].

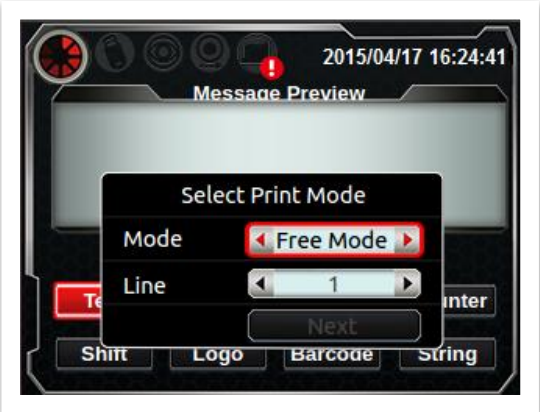
CREATE NEW MESSAGE (ADD OBJECT)



Press [New Message], you will get into [Add Object] page as below. Type of objects could be text, time, expire, counter, shift, logo and string. Other properties include context, font size and angle.

TEXT

Any new message must input mode first: free or row mode. Font type of text could be arial or gothic, parameter setting includes: font size (2.7mm, 3.6mm, 5.5mm, 8.0mm, 10.0mm, 12.7mm) and angle (0,180).

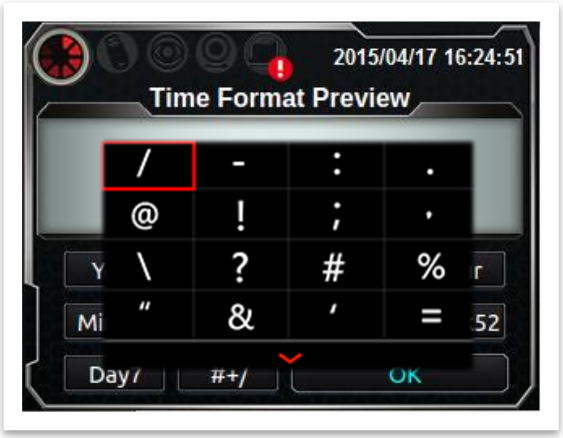


TIME/EXPIRE

[Time/Expire]→[Format]: It allows user to edit 20 types of custom time format.

Remote keypad: Press [0~9] to input the number (T9 keyboard for input letter), ' ␣ ' key could input space.

Remote keypad: Press [.] to pop up symbol window.



COUNTER

There are 3 types of counter, general counter, box counter and lot counter.
Each type has 4 parameters, which are max, min, start (current) and step value.
Each counter will reset to its minimum value when current value exceeds its maximum value. If box counter's current value exceeds its max, it will carried to lot number counter.

Ex: General counter: step=1, current:5→**6**

0 1 2 3 4 5 **6** … 999

Box: step=10, reset:100→**10**

Box# overflow
Lot# carried

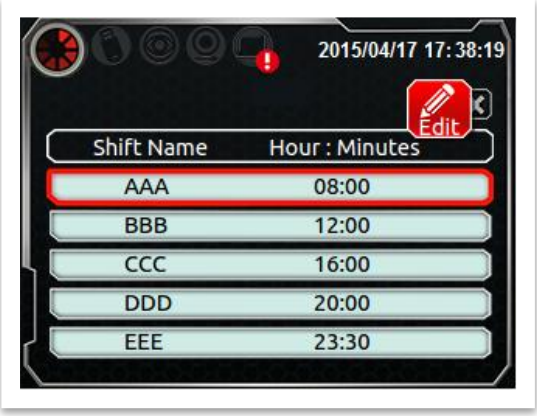
Lot:step=2,current:4→**6**

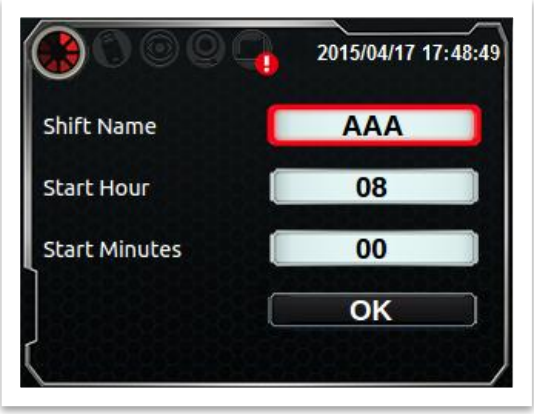
10 20 30 … 99 100 2 4 **6** 8 … 20

In this example, counter's current value changes from (5,100,4) to (6,10,6).

SHIFT

Shift table divides a day into 5 periods, each represent a working shift. Shift object will use current time to match proper shift name and then print it out.
Ex: Now is 09:14, so the shift name is 'AAA'.





LOGO

Select the logo object for logo list. Besides, we also could use Message Pro to import more logo sources.

BARCODE

This function only supports barcode with static content.
For example, a CODE128 barcode with content 'text' is below.
For the dynamic barcode, you can use the PC software (Message Pro).

All types of barcode:

	Name1	Name2	Description
1	EAN8		
2	EAN13		
3	EAN14		
4	EAN128		
5	UPCA		
6	UPCE		
7	CODE39		
8	CODE128		
9	ITF14	SCC-14	
10	NVE18	SSCC-18	
11	C25INTER		
12	CODABAR		
13	PDF417		
14	DATAMATRIX		
15	QRCODE		

STRING

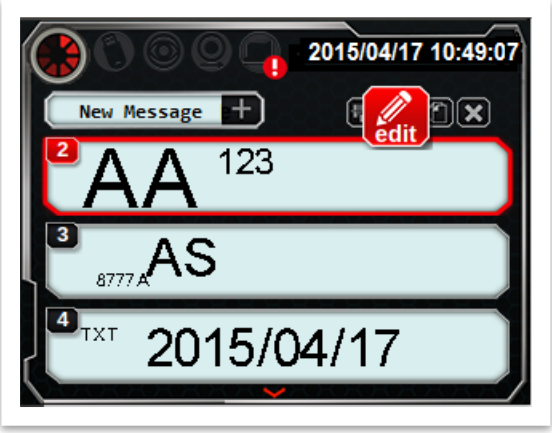
Setup the string number (1~5) of string object.
String table: Edit content for each string number.

MOVE OBJECT

Final stage of add new message is [Move Object] page.
After add the object, you can get into the move object page, initial position of the new object will be the end (most right edge) of message.
Direction key [▲][▼][◄][►] could move object.
Notes: [◄◄][►►] could fast move left/right of object.

PREVIEW LIST (SELECT MESSAGE)

In this page, there are 4 function buttons for message, which are print, edit, copy and delete.



PRINT

Start printing process, the printer will print once gets the trigger signal.

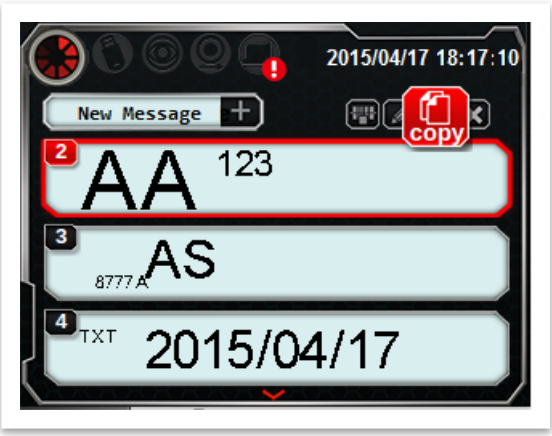
EDIT MESSAGE OBJECT

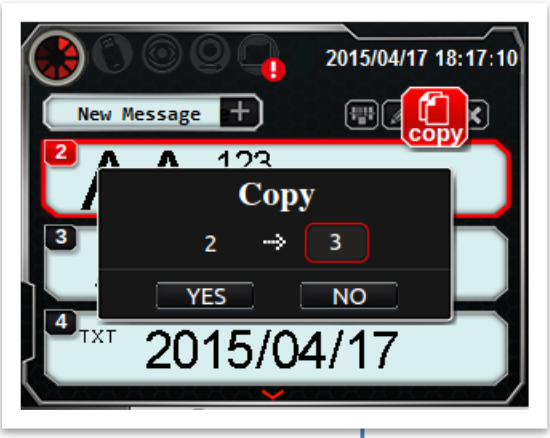
(Next section for more detail)

COPY

Copy a message from one to another. Default message# is 1st empty message#.

Assume current message directory have message 2, 3 and 4.
If you want to copy [MSG 2], default target is [MSG 5]. (1st empty number)
Press [YES], [MSG 2] will be copied to [MSG 5].





User could change target message. (ex: [MSG 3])

DELETE

Press [Delete] could delete message selected now.

MODIFY MESSAGE OBJECT

Select [Home]→[Browse]→[Select Message], there are 4 functions on this page: add, modify, move and delete object.

ADD OBJECT

[New Object] and [Edit Object] could setup object properties as above.
After set properties, you will get into move object page. Initial position of object is right most edge of message.

SELECT OBJECT

Press function [Modify], [Move] and [Delete], you will see object select page below.
Use [▲][▼] to switch selected object, [Enter] for start function.
Notes: [◄][►] could scroll view horizontally.

Edit Message Preview

Object Select Page

MODIFY OBJECT

Please reference [New Message (Add Object)] function above.

MOVE OBJECT

After add new object, get into move object preview page, you could adjust object position by direction keys [▲][▼][◄][►].

DELETE OBJECT

Select the object and press [Enter], it will be deleted.

SHORTCUT

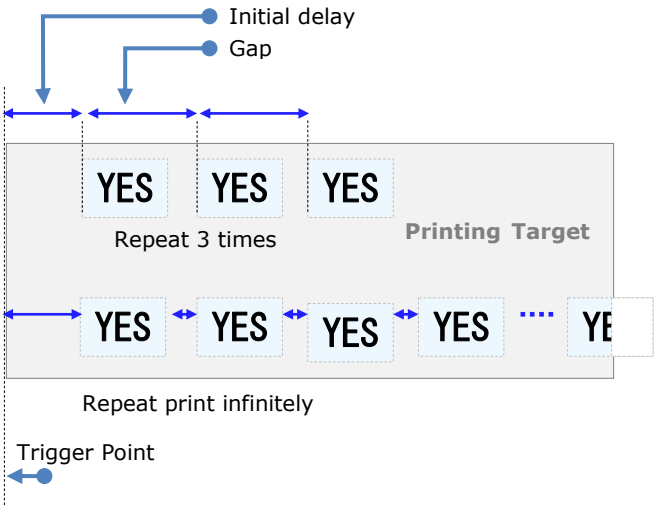
SET DELAY

There are 3 types delay in the system, which includes repeat print delay, global delay and message delay. These delay setting works mutual exclusively. If a conflict occurred, priority order is [Repeat delay] > [Global delay] > [Message delay].

Delay of Repeat Print

[Setting]→[Print Head]→[Repeat Print]

Repeat Mode: Infinite/Finite.



Global delay

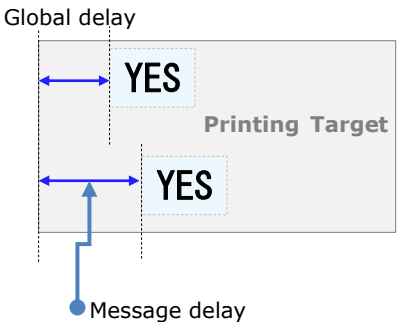
[Setting]→[System]→[Print delay]

This value applies all messages.

Message delay (default)

[Shortcut]→[Message delay]

This value only applies to this message.



PURGE

Use function [Purge] to clean print head when nozzle clogging or blocking.

EDITOR SETTING

CUSTOMER YEAR

Set customer year.

Ex: Assume this value is 103. The content of year will be replaced by 0103.

PRINTED YEAR

The year will be printed by printer.

WORKING SHIFT

It can edit all the working shift.

WORKING SHIFT

It can edit all the working string.

ROLLOVER HOUR

Set a time point for date change. This value will not affect the system clock, just has the effect on the date which we print out.
Assume now is 2014/10/**08** 23:52:00, and rollover hour is set to 23:50, then actual print time is 2014/10/**09** 23:52:00. (10 minutes in advance to change day).

COUNTER RESET

When enable, system will query [Do you want to reset counter?] before every [Print]. If you press [Yes], then all counters of this message will be reset to its minimum value.

PRODUCTION COUNTER

This value will accumulate automatically in every message print.
For example, this value is 100 yesterday, and we print 50 times today then. This value will become 150.

PRE-ZERO (TIME, DATE, COUNTER)

	Time	Date	Counter (digit:6,value:8)
Fill 0	12:08:05-	2014/02/08-	000008-
Align left	12:8 :5 -	2014/2 /8 –	8 -
Align right	12: 8: 5-	2014/ 2/ 8-	8-
Compact	12:8:5-	2014/2/8-	8-

REPORT

CLEAR

Clear all the content in the report.

BACKUP

Please insert the USB to the printer before this function.
It will back up the report file (report.log) to the USB, the path is USB://auprn/u2pro/report.log.

IMPORT/EXPORT SYSTEM SETTING

Please insert the USB to the printer before this function.
Export the configuration to USB, or import it from USB.

IMPORT/EXPORT MESSAGES FILE

Please insert the USB to the printer before this function.
Export messages to USB, or import them from USB.

SYNC OUT

It can sync out all the parameters and messages to the USB.

VIDEO

(Ignored)

DASHBOARD

Press keypad [Tools] under home page.

SYSTEM

Display printer's serial number, version of software and hardware etc.

INK

Display ink cartridge capacity.

CARTRIDGE

Show the ink's type and printing information.

ALARM

Show system error.

USB SYNC

Please insert USB flash drive (or USB disk) to printer in advance if it is never used.
System will query [Do you want to format* USB?], Press [Yes] to format USB.
Note: * this format operation is to save the machine specific information on the USB disk, it doesn't mean REALLY format (empty) USB disk.

ABOUT MESSAGE PRO

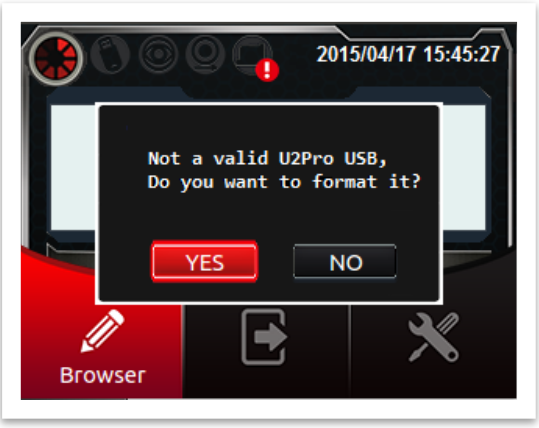
Message Pro is a proprietary software with U2Pro, which provides a complete and powerful editing functions to exchange messages with the printer.
Besides, it also can upgrade printer firmware with new features.

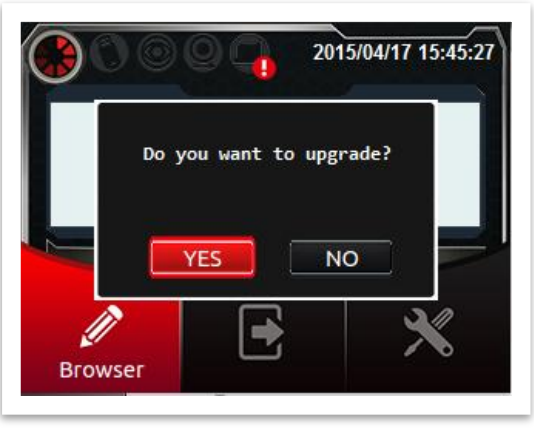
EDIT MESSAGE

1. Insert the formatted USB flash to PC.
2. Edit the message in USB by Message PRO.
3. After editing finished, insert USB back to printer.
4. Printer will query [Do you want to sync messages?], press [Yes] to copy all messages into printer.

Notes:

1. After synchronizing, all font and logo files will also copied.
2. After synchronizing, all messages in printer will be overwritten.
3. After synchronizing, some configuration setting in printer will also be overwritten, which includes time format, shift table, string table, customer year, pre-zero (time/date/counter).





SOFTWARE UPGRADE

Message PRO will install latest version of firmware in the USB.
If your printer query [Do you want to upgrade?], please press [Yes] to upgrade your system.
Finally, system will reboot automatically.